The Notification of the First Office Action

Chinese Patent Application No.   Patent Application No. 03817002.7

Applicant   NTT DOCOMO INC.

Title of Invention   Communication Control System, Communication Control

                                  Method and Relay Device

1. In accordance with the Request for substantive examination, the examiner has made the examination on the above patent application based on the provision of paragraph 1, Article 35 of the PRC patent Law.

2. The applicant requested to designate the filing date of July 17, 2002 as the priority date.

3. Examination is made based on the Chinese translation of the original filing document.

4. The notification is made under the search for the patent ability

(1) JP laid-open H10-271161A   (October 9, 1998)

5. The conclusion of the examination;

In regard to the Claims, Claim 5 cannot be allowed owing to lack of novelty based on the provision of paragraph 2, Article 22 of the PRC Patent Law.

In regard to the Claims, Claims 1,2, 4-6 cannot be allowed owing to lack of inventiveness based on the provision of Article 20 of the PRC Patent Law.

6. According to the above conclusion, it is considered that the applicant should state the reason on which the application can be accepted and amend the part that is indicated not to be conformity with the requirement, otherwise the application will be rejected.

7. The applicant is drawn attention to that

(1) In accordance with the provisions in Article 37 of the PRC Patent Law, the applicant shall submit the observation within Four months from the date of receiving this

notification. If the applicant, without any justified reason, fails to reply within the time limit, the application shall be deemed to have been withdrawn.

(2) The applicant shall make amendments to what in not in conformity with the provisions in the text of this notification. The amended text shall be furnished in duplicate. The formality of the document should be in conformity with the relative provisions in the Guidebook for Examination.

(3) Any response and/or amended specification must be mailed or sent by hand to the receiving Department of the PRC Patent Office. Any documents that are not sent to the Receiving Department do not have legal force.

(4) The applicant and/or his attorney could not go to the PRC Patent Office to meet the examiner if no appoints is made.

Text of The Notification of the First Office Action

Application Number:038170027

This application relates to "Communication Control System, Communication Control Method and Relay Device", and the examiner hereby provide the following comments.

1. The technical features described in claim 5 does not possess the novelty described in the provisions of Paragraph 3, Article 22 of the Patent Law. The cited document 1 (JP laid-open H10-271161A) discloses the communication control method transmitted through the relay device between the client and the server. In particular, the disclosed technical features are as follows (see [0020] to [0024] and Figures 1,2 of the cited document); when receiving the connection request packet 40, the relay device 30 stores the response signal for client 15-1 for a predetermined time. Then, in accordance with the received connection request packet 40, the relay device 30 detects the connection status between the relay device 30 and the server12, and determines whether the connection is established between the relay device 30 and the server 12. The relay device 30, when determines the communication connection is already established, transmits the response signal 43 stored in the client 15-1, and performs relay process by establishing the communication connection between the client and the server.

   As described above, the cited document 1 discloses all the technical features described in claim 5 of the present invention. Further, claim 5 of the present invention and the cited document has the same technical solution as well as the same technical field of invention. Moreover, claim 5 of the present invention and the cited document objects the same effect of the invention. Therefore, the technical solution described in claim 5 does not possess novelty over the cited document 1.

For the reasons above, this application is not patentable at the present stage. The applicant should make a response to all the problems pointed out in the Notification within the time limit of four months and amend the patent application documents when necessary, or the application is hard to be allowed. The amendments shall comply with the provisions of Article 33 of the Patent Law and may not go beyond the scope of disclosures recorded in the initial specification and claims.

中 华 人 民 共 和 国 国 家 知 识 产 权 局

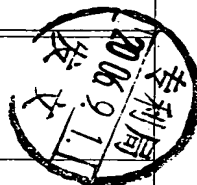| 邮政编码：100029 北京市朝阳区裕民路 12 号中国国际科技会展中心 A1210 号 北京银龙知识产权代理有限公司 郝庆芬	发文日期

申请号：038170027	

申请人：株式会社 NTT 都科摩

发明创造名称：通信控制系统、通信控制方法以及中继装置

第 一 次 审 查 意 见 通 知 书

（进入国家阶段的 PCT 申请）

1. ☑应申请人提出的实审请求，根据专利法第 35 条第 1 款的规定，国家知识产权局对上述发明专利申请进行实质审查。
   □根据专利法第 35 条第 2 款的规定，国家知识产权局专利局决定自行对上述发明专利申请进行审查。

2. ☑申请人要求以其在：
   JP　　　专利局的申请日　　2002 年 07 月 17 日为优先权日，
   　　　　专利局的申请日　　　　年　　月　　日为优先权日，
   　　　　专利局的申请日　　　　年　　月　　日为优先权日。

3. □申请人于　　年　月　日提交的修改文件，不符合专利法实施细则第 51 条的规定。
   □申请人提交的下列修改文件不符合专利法第 33 条的规定。
   □国际初步审查报告附件的中文译文。
   □依据专利合作条约第 19 条规定所提交的修改文件的中文译文。
   □依据专利合作条约第 28 条或 41 条规定所提交的修改文件。
   □

4. ☑审查是针对原始提交的国际申请的中文译文进行的。
   □审查是针对下述申请文件进行的：
   □说明书　第　　　　　页，按照原始提交的国际申请文件的中文译文；
   　　　　　第　　　　　页，按照国际初步审查报告附件的中文译文；
   　　　　　第　　　　　页，按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件；
   　　　　　第　　　　　页，按照依据专利法实施细则第 51 条规定所提交的修改文件。
   □
   □权利要求　第　　　　　项，按照原始提交的国际申请文件的中文译文；
   　　　　　第　　　　　项，按照依据专利合作条约第 19 条规定所提交的修改文件的中文译文。
   　　　　　第　　　　　项，按照国际初步审查报告附件的中文译文；
   　　　　　第　　　　　项，按照依据专利合作条约第 28 条或 41 条所提交的修改文件；
   　　　　　第　　　　　项，按照依据专利法实施细则第 51 条规定所提交的修改文件。
   □
   □附图　第　　　　　页，按照原始提交的国际申请文件的中文译文；
   　　　　　第　　　　　页，按照国际初步审查报告附件的中文译文；
   　　　　　第　　　　　页，按照依据专利合作条约第 28 条或 41 条所提交的修改件；
   　　　　　第　　　　　页，按照依据专利法实施细则第 51 条规定所提交的修改文件。

☐

☑ 本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期 (或抵触申请的申请日)
1	JP 特開平 10-271161 A	1998-10-9

5.审查的结论性意见:

☐关于说明书:
  ☐申请的内容属于专利法第 5 条规定的不授予专利权的范围。
  ☐说明书不符合专利法第 26 条第 3 款的规定。
  ☐说明书不符合专利法第 33 条的规定。
  ☐说明书的撰写不符合专利法实施细则第 18 条的规定。
  ☐

☑关于权利要求书:
  ☑权利要求 5 不具备专利法第 22 条第 2 款规定的新颖性。
  ☐权利要求   不具备专利法第 22 条第 3 款规定的创造性。
  ☐权利要求   不具备专利法第 22 条第 4 款规定的实用性。
  ☐权利要求   属于专利法第 25 条规定的不授予专利权的范围。
  ☐权利要求   不符合专利法第 26 条第 4 款的规定。
  ☐权利要求   不符合专利法第 31 条第 1 款的规定。
  ☐权利要求   不符合专利法第 33 条的规定。
  ☐权利要求   不符合专利法实施细则第 13 条第 1 款的规定。
  ☐权利要求   不符合专利法实施细则第 2 条第 1 款关于发明的定义。
  ☑权利要求 1,2,4-6 不符合专利法实施细则第 20 条的规定。
  ☐权利要求   不符合专利法实施细则第 21 条的规定。
  ☐权利要求   不符合专利法实施细则第 22 条的规定。
  ☐权利要求   不符合专利法实施细则第 23 条的规定。
  ☐

  上述结论性意见的具体分析见本通知书的正文部分。

6.基于上述结论性意见,审查员认为:
  ☐申请人应按照通知书正文部分提出的要求,对申请文件进行修改。
  ☑申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由,并对通知书正文部分中指出的不符合规定之处进行修改,否则将不能授予专利权。
  ☐专利申请中没有可以被授予专利权的实质性内容,如果申请人没有陈述理由或者陈述理由不充分,其申请将被驳回。
  ☐

7.申请人应注意下述事项:
(1)根据专利法第 37 条的规定,申请人应在收到本通知书之日起的肆个月内陈述意见,如果申请人无正当理由逾期不答复,其申请将被视为撤回。
(2)申请人对其申请的修改应符合专利法第 33 条的规定,修改文本应一式两份,其格式应符合审查指南的有关规定。
(3)申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处,凡未邮寄或递交给受理处的文件不具备法律效力。
(4)未经预约,申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

8.本通知书正文部分共有 2 页,并附有下述附件:
  ☑引用的对比文件的复印件共 1 份 7 页。
  ☐
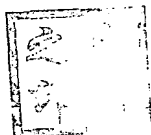
审查员:李科(9393)　　　　　　　　　　　　　　审查部门　　审查协作中心
2006 年 8 月 16 日

第一次审查意见通知书正文

申请号：038170027

本申请涉及一种"通信控制系统、通信控制方法以及中继装置"，经审查，现提出如下的审查意见：

1. 权利要求1不清楚，不符合专利法实施细则第二十条第一款的规定。权利要求1中具有一个用于实现客户端与服务器之间通信中继的"中继装置"，另外还具有几个实现通信中继具体功能的其它装置："保留部"、"判定部"和"中继处理部"，此三个装置的功能与"中继装置"的功能类似，但权利要求1中并未描述上述三个装置与"中继装置"之间的关系，因此是不清楚的，如果上述三个装置是"中继装置"组成部分，则应在权利要求1中明确说明；另外，权利要求1中出现了"并确立在所述客户端与所述服务器之间的通信后"，该句不通顺，建议申请人将其改为"并在确立所述客户端与所述服务器之间的通信后"或其它合适的表述方式。

2. 权利要求2、4不清楚，不符合专利法实施细则第二十条第一款的规定。权利要求2、4均引用了权利要求1，其限定部分分别具有一个"计费处理部"和"放弃处理部"，上述两个装置同样用于实现通信中继中的具体功能，但并未说明其与权利要求1中的用于实现客户端与服务器之间通信中继的"中继装置"之间的关系，因此是不清楚的。

3. 权利要求5所要求保护的技术方案不具备专利法第二十二条第二款规定的新颖性。对比文件1（JP特开平10-271161 A）公开了一种用于控制客户端和服务器之间通过中继装置通信的方法，并具体公开了以下的技术特征（参见对比文件1的说明书0020段到0024段，附图1、2）：中继装置30在接收到客户端15-1发出的连接请求信息包40时，暂时保留对客户端15-1的应答信号；根据接收到的连接请求信息包40，中继装置30检测其与服务器12的连接情况，并判断是否在中继装置30和服务器12间确立了连接；如果经判断确定已经建立了通信连接，则向客户端15-1发送所保留的应答信号43，并在确立客户端与服务器之间的通信连接后进行中继处理。

由此可见，对比文件1已经公开了权利要求5的全部技术特征，两者的技术方案实质上相同，且对比文件1所公开的技术方案与权利要求5所要求保护的技术方案属于同一技术领域，解决的技术问题实质上相同，并能产生相同的技术效果，因此权利要求5所要求保护的技术方案相对于对比文件1不具备新颖性。

4. 权利要求5不清楚，不符合专利法实施细则第二十条第一款的规定。权利要求5

第5行中出现了"所述服务器侧连接端子"，但上述特征在该权利要求此前的部分并未出现过，造成指代不清，因而该权利要求是不清楚的；另外，权利要求5中出现了"并确立在所述客户端与所述服务器之间的通信后"，该句不通顺，建议申请人将其改为"并在确立所述客户端与所述服务器之间的通信后"或其它合适的表述方式。

5．权利要求6不清楚，不符合专利法实施细则第二十条第一款的规定。权利要求6中出现了"并确立在所述客户端与所述服务器之间的通信后"，该句不通顺，建议申请人将其改为"并在确立所述客户端与所述服务器之间的通信后"或其它合适的表述方式。

基于上述理由，本申请按照目前的文本还不能被授予专利权。申请人应在本通知书指定的答复期限内作出答复，并根据本通知书的意见对专利申请文件作出修改，尤其是应根据本通知书中引用的对比文件修改独立权利要求以及相应的从属权利要求。申请人对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书的记载范围。

审查员：李科
代码：9393

* NOTICES *

CLAIMS

[Claim(s)]
[Claim 1] The above-mentioned repeating installation is minded to the repeating installation
which relays the first client and the server which outputs information. The first step which
outputs the first packet which requires establishment of a session from the first client of the
above between the first client of the above, and the above-mentioned server, The second step
at which the above-mentioned repeating installation outputs the second packet based on the
first packet of the above to the above-mentioned server, The above-mentioned server outputs
the third packet based on the second packet of the above to the above-mentioned repeating
installation. The third step which establishes the first session between the above-mentioned
server and the above-mentioned repeating installation, The above-mentioned repeating
installation outputs the fourth packet based on the third packet of the above to the first client of
the above. The fourth step and the above-mentioned server which establish the second session
relay the above-mentioned repeating installation using the above-mentioned first and the second
session between the above-mentioned repeating installation and the first client of the above.
The session control approach of the client/server system through the repeating installation
characterized by having the fifth step which outputs information to the first client of the above.
[Claim 2] It is the session control approach of the client/server system which prepares the first
client in the first network, prepares the server which outputs information in the second network,
and minds the repeating installation according to claim 1 characterized by repeating installation
relaying the first network of the above, and the second network of the above.
[Claim 3] The first client and second client are connected to repeating installation, and between
the first client of the above, and the server through the above-mentioned repeating installation
When the first and the second session are established, the second client of the above The fifth
step which outputs the fifth packet which requires establishment of a session between the
above-mentioned servers to the above-mentioned repeating installation, If the above-mentioned
repeating installation checks the first session of the above established between the above-
mentioned repeating installation and the above-mentioned server based on the input of the fifth
packet of the above Without performing access about the fifth packet of the above between the
above-mentioned repeating installation and the above-mentioned server The sixth packet based
on the fifth packet of the above is outputted to the second client of the above. The sixth step
which establishes the third session between the above-mentioned repeating installation and the
second client of the above, The above-mentioned repeating installation is relayed for the same
information as the information which the above-mentioned server relays repeating installation
and outputs to the first client of the above using the above-mentioned first and the second
session using the above-mentioned first and the third session. The session control approach of
the client/server system through the repeating installation according to claim 1 or 2
characterized by having the seventh step outputted to the second client of the above.
[Claim 4] The eighth step at which the first or the second client outputs the seventh packet
which requires a distribution halt of the information outputted from a server to repeating
installation, The ninth step from which the above-mentioned repeating installation cuts the
second or third session established between the above-mentioned first or the second client, and

the above-mentioned repeating installation based on the seventh packet of the above, The above-mentioned repeating installation the accounting information about the information outputted to the above-mentioned first or the second client from the above-mentioned server after the second or third session of the above is established before the second or third session of the above was cut based on cutting of the second or third session of the above The session control approach of the client/server system through the repeating installation according to claim 1 to 3 characterized by having the tenth step notified to the above-mentioned server using the first session.

[Claim 5] The session control approach of the client/server system through the repeating installation according to claim 4 characterized by supposing that it is accounting information the amount of data of the information outputted to the first or the second client from the server after the second or third session is established before the second or third session of the above was cut.

[Claim 6] The session control approach of the client/server system through the repeating installation according to claim 4 characterized by supposing that it is accounting information the number of packets of the packet about the information outputted to the first or the second client from the server after the second or third session is established before the second or third session of the above was cut.

[Translation done.]

* NOTICES *

JPO and NCIPI are not responsible for any
damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original
precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the session control approach of the
client/server system through the repeating installation which connects or cuts the session
between the servers and clients which output periodically a certain kind of real-time information.

[0002]
[Description of the Prior Art] As an example of the session control approach of the client/server
system through repeating installation, it is the Nikkei communication. The October 7, 1996 issue
Two, the IP multicast shown in one more step" and StreamWorks (trademark of a U.S. gin
technology company) which are the products of a U.S. gin technology company, are mentioned to
unloading multicast implementation of a No.231"IP network. In order to employ the former IP
multicast, it needs to change into IP multicast correspondence IP networks which have spread
widely including the worlds, such as the Internet, i.e., functional modification of each repeating
installation (router) which constitutes IP network, and early employment has the trouble of being
difficult. On the other hand, the latter StreamWorks could be employed in the existing IP
network, and actual employment has already started. Here, StreamWorks already employed in the
existing IP network are taken up as a conventional technique, and this is explained using drawing
3 .
[0003] The component which realizes the session control approach of the client/server system
which minds the conventional repeating installation called a propagation server in StreamWorks
is shown. In drawing 3 , 10 is IP network which consisted of dedicated lines, such as the Internet.
11 is an access network constituted by a telephone network etc. 12 is a server and is connected
to IP network. 13 is the real-time information dispatch section which a server 12 has, and real-
time information of a certain kind like play-by-play broadcasting, such as baseball performed at a
broadcasting station and a concert, is always distributed. 14 is the conventional repeating
installation, it is installed in the predetermined point inside the IP network 10, and the real-time
information distributed from the real-time information dispatch section 13 which a server 12 has
is received. 15-1 - 15-m are clients, and it connects with the access network 11 and they
consist of personal computers etc. 16 is a client group and consists of two or more clients 15-1
- 15-m. 17 is the real-time information junction section which repeating installation 14 has,
relays a server 12, and a client 15-1 - 15-m, and outputs the real-time information distributed
from the real-time information dispatch section 13 which a server 12 has to a client 15-1 - 15-
m. 18 is the delivery information offer section which a server 12 has, and provides a client 15-1
- 15-m with delivery information, such as distribution time of real-time information, and URL
(Uniform Resource Locator) of the real-time information junction section 17 which repeating
installation 14 has.
[0004] Next, the communication procedure between the client group 16, repeating installation 14,
and the 3 persons of a server 12 is explained using drawing 4 . Drawing 4 is the sequence
diagram showing the procedure of the signal exchanged between the client group 16, repeating
installation 14, and the 3 persons of a server 12. In drawing 4 , 20 is access processing and

acquires the information which the delivery information offer section 18 offers between each client 15-1 – 15-m, and the delivery information offer section 18 of a server 12. 21 is the first session activation processing and establishes a session between repeating installation 14 and the real-time information dispatch section 13. 22 is the second session activation processing and establishes a session between each client 15-1 which wishes distribution of the real-time information distributed from a server 12 – 15-m, and the real-time information junction section 17 of repeating installation 14 which has received the real-time information distributed from the server 12. 23 is the first message distribution processing and the real-time information outputted from the server 12 is distributed to repeating installation 14. 24 is the second message distribution processing and the real-time information outputted from repeating installation 14 is distributed to each client 15-1 – 15-m.

[0005] Henceforth, the session control approach of the client/server system through the conventional repeating installation is explained based on the procedure of drawing 4 . A server 12 performs first session activation processing 21 which makes a session establish between the real-time information dispatch section 13 of a server 12, and the real-time information junction section 17 of the repeating installation 14 of arbitration. When a certain client 15-1 in the client group 16, for example, a client, wishes distribution of the real-time information distributed from the server 12, a client 15-1 searches URL of the real-time information junction section 17 concerned, in order to access the real-time information junction section 17 which the repeating installation 14 in the IP network 10 where the session was established between near and a server 12 in the access network 11 where the client 15-1 was connected has. A client 15-1 can mitigate the load concerning the IP network 10 by accessing the real-time information junction section 17 which the repeating installation 14 in the IP network 10 near the access network 11 where this client 15-1 was connected has. For this reason, a client 15-1 performs access processing 20 between servers 12, and obtains URL of the delivery information offer section 18 to the real-time information junction section 17 concerned which a server 12 has. The client 15-1 which wishes distribution of real-time information performs second session activation processing 22 which establishes a session between the real-time information junction sections 17 of the repeating installation 14 concerned based on URL of the real-time information junction section 17 concerned obtained from the delivery information offer section 18 of a server 12.

[0006] Repeating installation 14 distributes the real-time information disseminated from the real-time information dispatch section 13 of a server 12 to a client 15-1 using the session between the real-time information dispatch section 13 of these servers 12, and the real-time information junction section 17 of repeating installation 14, and the session between the real-time information junction section 17 of repeating installation 14, and a client 15-1. In addition, it is for stopping the amount of the real-time information which flows that repeating installation 14 relays between a server 12, and clients 15-1 – 15-m, and the IP network 10. For example, the first same client 15-1 and second same client 15-2 of the client group 16 consider the case where distribution of the same real-time information is expected of the real-time information dispatch section 13 of a server 12. When there is no repeating installation 14 at this time, as for the real-time information dispatch section 13 of a server 12, the same real-time information is distributed to the first client 15-1 and second 15 to client 2 each. That is, the two same real-time information passes through the IP network 10. Then, when a client 15-1 forms repeating installation 14 in the inside of the IP network 10 near the access network 11 where it connected The number of the real-time information distributed to the real-time information junction section 17 of repeating installation 14 from the real-time information dispatch section 13 of a server 12 is one. It is reproduced by two real-time information when distributing to the first client 15-1 and the second client 15-2 from the real-time information junction section 17 of repeating installation 14. That is, the real-time information which passes through the IP network 10 is suppressed by one.

[0007]
[Problem(s) to be Solved by the Invention] By the session control approach of the client/server system through the repeating installation of the client 15-1 – 15-m, and the server 12 using the conventional repeating installation 14 When distribution of the real-time information to which

firm output of a client 15-1 - the 15-m is carried out from the server 12 is expected that an excessive load is not covered over the IP network 10, A client 15-1 - 15-m access the delivery information offer section 18 of a server 12 through the IP network 10. URL of the real-time information junction section 17 which the repeating installation 14 in IP network near the access network 11 where a client 15-1 - 15-m were connected has had to be checked. moreover, by the session control approach of the client/server system through the repeating installation of the client 15-1 - 15-m, and the server 12 using the conventional repeating installation 14 Since repeating installation 14 is installed in the predetermined point inside the IP network 10, when a client 15-1 - 15-m receive real-time information from repeating installation 14 If a part of IP network 10 is not used, delivery information cannot be distributed to a client 15-1 - 15-m from repeating installation 14. There was a problem of the ability not to make the load of the IP network 10 between repeating installation 14, and a client 15-1 - 15-m mitigate.

[0008] When distribution of the real-time information to which this invention is made in view of such a problem, and firm output of a client 15-1 - the 15-m is carried out from the server 12 is expected that an excessive load is not covered over the IP network 10, A client 15-1 - 15-m do not have the need of accessing the delivery information offer section 18 of a server 12 through the IP network 10. There is also no need of checking URL of the real-time information junction section 17 which the repeating installation 14 in IP network near the access network 11 where a client 15-1 - 15-m were connected has. It aims at acquiring the session control approach of a client/server system that the establishment procedure of the session made to establish between a client 15-1 - 15-m, and a server 12 sees from a client side, and minds simple repeating installation. Moreover, two or more clients 15-1 which constitute the same client group 16 - 15-m this invention The ** which does not increase the load of the IP network 10 prepared through a client 15-1 - 15-m, and a server 12 even if it has received distribution of the same real-time information from the real-time information dispatch section 13 of the same server 12, It aims at acquiring the session control approach of the client/server system through the repeating installation of the client 15-1 - 15-m, and the server 12 which can press down the load of this IP network 10.

[0009]
[Means for Solving the Problem] The session control approach of the client/server system through the repeating installation concerning this invention Repeating installation is minded to the repeating installation which relays the first client and the server which outputs information. The first step which outputs the first packet which requires establishment of a session from the first client between the first client and a server, The second step at which repeating installation outputs the second packet based on the first packet to a server, A server outputs the third packet based on the second packet to repeating installation. The third step which establishes the first session between a server and repeating installation, Repeating installation outputs the fourth packet based on the third packet to the first client. Using the first and the second session, the fourth step and server which establish the second session between repeating installation and the first client relay repeating installation, and have the fifth step which outputs information to the first client.

[0010] Moreover, by the session control approach of the client/server system through the repeating installation concerning this invention, the first client is prepared in the first network, the server which outputs information is prepared in the second network, and repeating installation relays the first network and second network.

[0011] Furthermore, the session control approach of the client/server system through the repeating installation concerning this invention The first client and second client are connected to repeating installation, and between the first client and the server through repeating installation When the first and the second session are established, the second client If the fifth step which outputs the fifth packet which requires establishment of a session between servers to repeating installation, and repeating installation check the first session established between repeating installation and a server based on the input of the fifth packet Without performing access about the fifth packet between repeating installation and a server The sixth packet based on the fifth packet is outputted to the second client. The sixth step which establishes the third session

between repeating installation and the second client, It has the seventh step which relays the same information as the information which a server relays repeating installation and outputs to the first client using the first and the second session, and outputs repeating installation for it to the second client using the first and the third session.

[0012] Moreover, the session control approach of the client/server system through the repeating installation concerning this invention The eighth step at which the first or the second client outputs the seventh packet which requires a distribution halt of the delivery information outputted from a server to repeating installation, The ninth step from which repeating installation cuts the second or third session set up between the first or the second client, and repeating installation based on the seventh packet, The first session is used for the accounting information about the delivery information by which repeating installation was outputted to the first or the second client from the server based on cutting of the second or third session after the second or third session is set up before the second or third session was cut. It has the tenth step notified to a server.

[0013] Furthermore, the session control approach of the client/server system through the repeating installation concerning this invention presupposes that it is accounting information the amount of data of the delivery information outputted to the first or the second client from the server after the second or third session is set up before the second or third session was cut.

[0014] Moreover, the session control approach of the client/server system through the repeating installation concerning this invention presupposes that it is accounting information the number of packets of the packet about the delivery information outputted to the first or the second client from the server after the second or third session is set up before the second or third session was cut.

[0015]
[Embodiment of the Invention]
The component which realizes the session control approach of the client/server system through the repeating installation of gestalt 1. this invention of implementation of invention is explained using drawing 1 . In drawing 1 , 10 is IP network which consisted of dedicated lines, such as the Internet. 11 is an access network constituted by a telephone network etc. 12 is a server and is connected to IP network. 13 is the real-time information dispatch section which a server 12 has, and real-time information of a certain kind like play-by-play broadcasting, such as baseball performed at a broadcasting station and a concert, is always distributed. 30 is the repeating installation of this invention, it is installed out of the IP network 10, and the real-time information distributed from the real-time information dispatch section 13 which a server 12 has is received. 15-1 - 15-m are clients, it connects with the access network 11, and consist of personal computers etc., and communicate with a server 12. 16 is a client group and consists of two or more clients 15-1 - 15-m.

[0016] 31 is the session Monitoring Department, is executed by proxy to each client 15-1 - 15-m, and performs processing of session initiation and termination. 32 is the first network interface and connects the session Monitoring Department 31 and the IP network 10. With it, the first network interface 32 notifies the session Monitoring Department 31 of the IP packet of a certain kind inputted from the IP network 10. Furthermore, the first network interface 32 outputs the IP packet notified from the session Monitoring Department 31 to the IP network 10. 33 is the second network interface and connects the session Monitoring Department 31 and the access network 11. With it, the second network interface 33 notifies the session Monitoring Department 31 of the IP packet inputted from the access network 11. Furthermore, the second network interface 33 outputs the IP packet notified from the session Monitoring Department 31 to the access network 11. 34 is the accounting information Management Department, and it connects with the session Monitoring Department 31, and it manages the accounting information based on the session of each client 15-1 - 15-m.

[0017] Next, the interior action of the client group 16, repeating installation 30, and the communication procedure between the 3 persons of a server 12 and repeating installation 30 is explained using drawing 2 . Drawing 2 , It is the sequence diagram showing the procedure of a signal and the procedure of the repeating-installation 30 interior which are exchanged through

the IP network 10 and the access network 11 between the client group 16, repeating installation 30, and 3 persons of a server 12. In drawing 2 , 40 is the first session connection demand packet, and in order that the client 15-1 in the client group 16 may require establishment of a session with the real-time information dispatch section 13 of a server 12, it is outputted from a client 15-1. 41 is the second session connection demand packet, and in order to establish a session between repeating installation 30 and the real-time information dispatch section 13 of a server 12 when the first session connection demand packet 40 is inputted from a client 15-1, and the session is not established yet between repeating installation 30 and the real-time information dispatch section 13 of a server 12, it is outputted from repeating installation 30. 42 is the first session connection response packet, and is outputted to repeating installation 30 based on the second inputted session connection demand packet 41. 43 is the second session connection response packet, and is outputted to a client 15-1 based on the first inputted session connection demand packet 40.

[0018] 44 is the third session connection demand packet, and in order that the client 15-2 in the client group 16 may require establishment of a session with the real-time information dispatch section 13 of a server 12, it is outputted from a client 15-2. 45 is the third session connection response packet, and is outputted to a client 15-2 based on the third inputted session connection demand packet 44. 46 is the first distribution packet and is outputted from the real-time information dispatch section 13 of a server 12. 47 is the second distribution packet and is outputted to a client 15-1 from repeating installation 30 based on the first distribution packet 46 inputted from the real-time information dispatch section 13 of a server 12. 48 is the third distribution packet and is outputted to a client 15-2 from repeating installation 30 based on the first distribution packet 46 inputted from the real-time information dispatch section 13 of a server 12. 49 is the first session termination demand packet, and in order to terminate the session established to a client 15-1, it is outputted from a client 15-1. 50 is the second session termination demand packet, and in order to terminate the session established to a client 15-2, it is outputted from a client 15-2. 51 is a notice packet of accounting information, and it is outputted from repeating installation 30 in order to notify the accounting information about the session of the client 15-1 which repeating installation 30 had managed, and a client 15-2 to the real-time information dispatch section 13. 52 is the third session termination demand packet, and in order for repeating installation 30 to terminate a session with the real-time information dispatch section 13 of a server 12, it is outputted from repeating installation 30.

[0019] In addition, an IP packet The first session connection demand packet 40, the second session connection demand packet 41, the first session connection response packet 42, the second session connection response packet 43, the third session connection demand packet 44, the third session connection response packet 45, It is the generic name of the first distribution packet 46, the second distribution packet 47, the third distribution packet 48, the first session termination demand packet 49, the second session termination demand packet 50, the notice packet 51 of accounting information, and the third session termination demand packet 52. 60 is session activation processing, is performed at the session Monitoring Department 31 of repeating installation 30, and performs establishment of the session of a server 12 and repeating installation 30, or a repeating installation 30, a client 15-1 - 15-m and a session. 61 is message distribution processing, is performed at the session Monitoring Department 31 of repeating installation 30, and distributes the real-time information inputted from the real-time information dispatch section 13 of a server 12 to a client 15-1 - 15-m. 62 is an accounting post process and ends the computation about the amount of data and the tariff to the real-time information to which each client 15-1 currently performed at the accounting information Management Department 34 of repeating installation 30 - every 15-m were distributed. 63 is a session post process, is performed at the session Monitoring Department 31 of repeating installation 30, and terminates the session between repeating installation 30 and the real-time information dispatch section 13 of a server 12.

[0020] Henceforth, the session control approach of the client/server system through the repeating installation of this invention is explained based on drawing 1 . In order [which constitutes the client group 16] to establish a session with the real-time information dispatch

section 13 of a server 12, for example from a client 15-1, the first session connection demand packet 40 is outputted. At this time, the session between repeating installation 30 and the real-time information dispatch section 13 of a server 12 shall not be established yet. If the first session connection demand packet 40 outputted from the client 15-1 is inputted, repeating installation 30 will be the session Monitoring Department 31 of repeating installation 30, and will perform session activation processing 60. In addition, the session Monitoring Department 31 of repeating installation 30 detects URL which is the destination which makes the session contained in the first inputted session connection demand packet 40 establish. And the session Monitoring Department 31 of this repeating installation 30 makes a session establish between the real-time information dispatch sections 13 of a server 12 based on this detected URL.

[0021] Generally, URL consists of information showing an access method, and information showing the whereabouts of the service provision section. In addition, as an example of the service provision section, the real-time information dispatch section 13 is mentioned. for example, http://www.rts.com -- in URL, http is the information showing an access method -- www.rts.com is the information showing the whereabouts of the service provision section. It can judge whether it is the service provision section in which the service provision section shown by URL passes real-time information from the information showing the access method similarly shown by URL. The session activation processing 60 outputs the second session connection demand packet 41 from the repeating installation 30 to the real-time information dispatch section 13 in order to make a session establish between repeating installation 30 and the real-time information dispatch section 13, when it recognizes that the session is not established yet between repeating installation 30 and the real-time information dispatch section 13, while the real-time information dispatch section 13 of a server 12 recognizes that it is the service provision section which passes real-time information.

[0022] A server 12 will output the first session connection response packet 42 of a purport which permits establishment of this session to repeating installation 30, if the second session connection demand packet 41 from the repeating installation 30 to the real-time information dispatch section 13 is inputted. And a session is established between the real-time information dispatch section 13 of a server 12, and repeating installation 30. If the first session connection response packet 42 is inputted from a server 12, at the session Monitoring Department 31 in repeating installation 30, repeating installation 30 will perform session activation processing 60, and will output the second session connection response packet 43 to a client 15-1. And a session is established between repeating installation 30 and a client 15-1.

[0023] Moreover, in order [which constitutes the same client group 16 as a client 15-1] to establish a session with the real-time information dispatch section 13 of a server 12, for example from a client 15-2, when the third session connection demand packet 44 is outputted, the session Monitoring Department 31 of repeating installation 30 performs session activation processing 60. This session activation processing 60 is the service provision section in which the real-time information dispatch section 13 of a server 12 passes real-time information, And if it checks that the session is already established between repeating installation 30 and the real-time information dispatch section 13 the third session connection response packet 45 of a purport which permits establishment of a session to a client 15-2, without making a session newly establish between repeating installation 30 and the real-time information dispatch section 13 -- a client 15-2 -- it transmits. And a session is established between repeating installation 30 and a client 15-2.

[0024] Repeating installation 30 carries out message distribution processing 61 which distributes the first distribution packet 46 distributed from the real-time information dispatch section 13 of a server 12 to a client 15-1 and a client 15-2 by the session Monitoring Department 31 through the session established between the real-time information dispatch sections 13 of a server 12, the session established between clients 15-1, and the session established between clients 15-2. In addition, in connection with this message distribution processing 61, the session Monitoring Department 31 of repeating installation 30 notifies the accounting information Management Department 34 of the accounting information of a client 15-1 and a client 15-2. As this accounting information, the byte count of the real-time information distributed, for example to

each of a client 15-1 and a client 15-2 is mentioned. Moreover, as this accounting information, the number of packets of the packet of the real-time information distributed, for example to each of a client 15-1 and a client 15-2 is mentioned.

[0025] Henceforth, the session Monitoring Department 31 of repeating installation 30 notifies the accounting information Management Department 34 of accounting information while distributing the distribution packet of this real-time information to a client 15-1 and a client 15-2, if the distribution packet of the real-time information distributed from the real-time information dispatch section 13 of a server 12 is inputted. Furthermore, in order to establish a session with the real-time information dispatch section 13 of a server 12, even if the third session connection demand packet 44 is outputted from the client which constitutes the same client group 16 as a client 15-1, with the same procedure as the above-mentioned client 15-2, a session with repeating installation 30 is established and processing about accounting is performed with repeating installation 30. If the first session termination demand packet 49 for terminating a session with the real-time information dispatch section 13 of a server 12 or the second session termination demand packet 50 is inputted into the session Monitoring Department 31 of repeating installation 30 from a client 15-1 or a client 15-2, the session Monitoring Department 31 of repeating installation 30 will notify the accounting information Management Department 34 of that.

[0026] If the first session termination demand packet 49 or the second session termination demand packet 50 is inputted into repeating installation 30, the accounting information Management Department 34 of repeating installation 30 will perform the accounting post process 62. And the accounting information Management Department 34 of repeating installation 30 notifies the session Monitoring Department 31 of the accounting intensive result which may have had the accounting information which was being accumulated till then collected. In order to terminate the session set up between repeating installation 30 and the real-time information dispatch section 13 of a server 12, the session Monitoring Department 31 of repeating installation 30 outputs the third session termination demand packet 52 to the real-time information dispatch section 13 of a server 12, while outputting to the real-time information dispatch section 13 of a server 12 by making into the notice packet 51 of accounting information the accounting intensive result obtained from the accounting information Management Department 34. In addition, the session control approach of the client/server system through the repeating installation of this operation gestalt is applicable similarly with other protocols of an OSI (Open Systems Interconnection) protocol or an OSI protocol.

[0027] Thus, the session control approach of the client/server system through the repeating installation of this operation gestalt The client 15-1 which wishes distribution of real-time predetermined information through repeating installation 30 between the real-time information dispatch sections 13 of the server 12 which has distributed real-time information When you try to make it establish a session, between the real-time information dispatch section 13 of a server 12, and repeating installation 30, And since a session is established between repeating installation 30 and a client 15-1 and real-time information is distributed to a client 15-1 from the real-time information dispatch section 13 of a server 12 using these two sessions, The establishment procedure of the session between the clients 15-1 and servers 12 which were seen from the client 15-1 side becomes simple.

[0028] Moreover, the session control approach of the client/server system through the repeating installation of this operation gestalt The client 15-2 which constitutes the same client group 16 as a client 15-1 between the same real-time information dispatch sections 13 of a server 12 as a client 15-1 Without making a new session establish between the real-time information dispatch section 13 of a server 12, and repeating installation 30, when you try to make it establish a session A session is established between repeating installation 30 and a client 15-2. The session between the repeating installation 30 and the real-time information dispatch sections 13 of a server 12 which were established when a client 15-1 tended to make it establish a session between the real-time information dispatch sections 13 of a server 12, Since real-time information is distributed to a client 15-2 from the real-time information dispatch section 13 of a server 12 using the session between repeating installation 30 and a client 15-2,

The load of the IP network 10 through between repeating installation 30 and servers 12 can be pressed down.

[0029] Furthermore, the session control approach of the client/server system through the repeating installation of this operation gestalt When the client 15-1 or client 15-2 to which real-time information is distributed terminates establishment of a session, In order that repeating installation 30 may terminate the session established between clients 15-1 and may notify the accounting information about a client 15-1 or a client 15-2 to the real-time information dispatch section 13 of a server 12, It becomes possible to realize service which offers real-time information for pay.

[0030] Moreover, the session control approach of the client/server system through the repeating installation of this operation gestalt When all the clients that constitute the same client group 16 to which the same real-time information is distributed terminate establishment of a session, The session in which repeating installation 30 is established among all clients, And in order to terminate the session established between the real-time information dispatch sections 13 of a server 12 and to notify the accounting information about all clients to the real-time information dispatch section 13 of a server 12, It becomes possible to realize service which offers real-time information for pay. Furthermore, the session control approach of the client/server system through the repeating installation of this operation gestalt Since repeating installation 30 was installed in the junction point of the IP network 10 and the access network 11 outside the IP network 10, When a client 15-1 - 15-m receive real-time information from repeating installation 30, Delivery information is distributed to a client 15-1 - 15-m from repeating installation 14, without using the IP network 10, and it becomes possible to make the load of the IP network 10 mitigate.

[0031]
[Effect of the Invention] The session control approach of the client/server system through the repeating installation concerning this invention Repeating installation is minded to the repeating installation which relays the first client and the server which outputs information. The first step which outputs the first packet which requires establishment of a session from the first client between the first client and a server, The second step at which repeating installation outputs the second packet based on the first packet to a server, A server outputs the third packet based on the second packet to repeating installation. The third step which establishes the first session between a server and repeating installation, Repeating installation outputs the fourth packet based on the third packet to the first client. Since the fourth step and server which establish the second session between repeating installation and the first client have the fifth step which relays repeating installation and outputs information to the first client using the first and the second session, the configuration procedure of the session boiled and prepared between the first client and servers by the first client is simplified.

[0032] Moreover, the session control approach of the client/server system through the repeating installation concerning this invention Prepare the first client in the first network and the server which outputs information is prepared in the second network. Since repeating installation relayed the first network and second network and was installed in the part into which this repeating installation differs from the second network, When a client receives information from repeating installation, information is transmitted to a client from repeating installation only using the first network. For this reason, it becomes possible to make the load of the second network mitigate.

[0033] Furthermore, the session control approach of the client/server system through the repeating installation concerning this invention The first client and second client are connected to repeating installation, and between the first client and the server through repeating installation When the first and the second session are established, the second client If the fifth step which outputs the fifth packet which requires establishment of a session between servers to repeating installation, and repeating installation check the first session established between repeating installation and a server based on the input of the fifth packet Without performing access about the fifth packet between repeating installation and a server The sixth packet based on the fifth packet is outputted to the second client. The sixth step which establishes the third session

between repeating installation and the second client, Repeating installation is relayed for the same information as the information which a server relays repeating installation and outputs to the first client using the first and the second session using the first and the third session. Since it has the seventh step outputted to the second client, the communication link load between repeating installation and a server can be pressed down.

[0034] Moreover, the session control approach of the client/server system through the repeating installation concerning this invention The eighth step at which the first or the second client outputs the seventh packet which requires a distribution halt of the delivery information outputted from a server to repeating installation, The ninth step from which repeating installation cuts the second or third session set up between the first or the second client, and repeating installation based on the seventh packet, The first session is used for the accounting information about the delivery information by which repeating installation was outputted to the first or the second client from the server based on cutting of the second or third session after the second or third session is set up before the second or third session was cut. Since it has the tenth step notified to a server, it can realize offering delivery information for pay.

[0035] Furthermore, since [the session control approach of the client/server system through the repeating installation concerning this invention / accounting information] it is the amount of data of the delivery information outputted to the first or the second client from the server after the second or third session is set up before the second or third session was cut, it can realize offering delivery information for pay.

[0036] Moreover, since [the session control approach of the client/server system through the repeating installation concerning this invention / accounting information] it is the number of packets of the packet about the delivery information outputted to the first or the second client from the server after the second or third session is set up before the second or third session was cut, it can realize offering delivery information for pay.

[Translation done.]

* NOTICES *

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damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original
precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the component which realizes the session control
approach of the client/server system through the repeating installation of this operation gestalt.
[Drawing 2] It is the sequence diagram showing the procedure of the session control approach of
the client/server system through the repeating installation of this operation gestalt.
[Drawing 3] It is the block diagram showing the component which realizes the session control
approach of the client/server system through the conventional repeating installation.
[Drawing 4] It is the sequence diagram showing the procedure of the session control approach of
the client/server system through the conventional repeating installation.
[Description of Notations]
10 IP Network, 11 Access Network, 12 Server, The 13 real-time information dispatch section, 14
Repeating installation, 15-1 – 15-m Client, 16 A client group, 17 The real-time information
junction section, 18 Delivery information offer section, 20 Access processing, 21 The first
session activation processing, 22 Second session activation processing, 23 The first message
distribution processing, 24 The second message distribution processing, 30 Repeating
installation, 31 The session Monitoring Department, 32 The first network interface, The 33
second network interface, 34 Accounting information Management Department, 40 The first
session connection demand packet, 41 The second session connection demand packet, The
session connection response packet of 42 firsts, 43 The second session connection response
packet, 44 The third session connection demand packet and 45 The third session connection
response packet, 46 The first distribution packet, 47 The second distribution packet, 48 The
third distribution packet, 49 The first session termination demand packet, 50 The second session
termination demand packet, 51 The notice packet of accounting information, 52 The third
session termination demand packet, 60 Session activation processing, 61 Message distribution
processing, 62 An accounting post process, 63 Session post process.

[Translation done.]